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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,263	09/11/2003	Hideto Nakamura	Q77329	3529

7590 01/11/2006

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EXAMINER	
GOKHALE, SAMEER K	
ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/659,263	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Sameer K. Gokhale	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4-6, claim 4 recites the limitation "said lighted discharge cell mode" in line 18 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Saegusa et al. (US 6,175,194) (hereafter, "Saegusa").

Regarding claim 1, Saegusa teaches a method for driving a display panel in which discharge cells are formed at intersections between a plurality of row electrode pairs corresponding to display lines, and a plurality of column electrodes intersecting with said row electrode pairs (see col. 1, lines 22-24), said display panel being driven in sub-fields (Fig. 3), each field of a video signal being constituted by a plurality of said sub-fields(Fig. 5), wherein: each of at least two successive sub-fields (Fig. 5, items SF1 and SF2) including a leading sub-field (Fig. 5, item SF1) includes a selective write addressing step for setting said discharge cells to a lighted discharge cell mode by applying a scan pulse to one row electrode of said row electrode pair while applying a data pulse corresponding to said video signal to said column electrode thereby selectively causing a writing discharge in said discharge cells (Fig. 5, see col. 6, lines 47-51, where both SF1 and SF2 contain the step of applying a scan pulse SP to one row electrode while applying a data pulse DP corresponding to said column electrode causing a writing discharge in said discharge cells); the sub-fields following said at least two sub-fields (Fig. 5, item SF3) include a selective erasure addressing step for setting said discharge cells to an unlighted discharge cell mode by applying said scan pulse to one row electrode of said row electrode pair while applying the data pulse corresponding to said video signal to said column electrode thereby selectively causing

an erasing discharge in said discharge cells (Fig. 5, where SF3 contains the step of applying a scan pulse SP to one row electrode while applying a data pulse DP corresponding to said column electrode causing a discharge in said discharge cells, and this will be an "erasing" discharge when the data pulse is set to not discharge during that subfield); and an emission sustain step for applying sustain pulses (Fig. 5, items IP) to said row electrode pairs thereby causing a sustain discharge to be repeated a number of times corresponding to a weighting of that sub-field only in said discharge cells that are in said lighted discharge cell mode (Fig. 6, col. 8, lines 38-54, where the weights given to the sustain discharge for each subfield are shown); the last sub-field of each field (Fig. 6, item SF 14) includes a first erasing step for inducing a first erasing discharge (Fig. 6, item E) between said column electrode and one of the row electrodes of said row electrode pair belonging to said discharge cells that have been set to said unlighted discharge cell mode in said selective erasure addressing step (see col. 8, line 61-63, where this step erases the wall charges in all discharge cells); and a second erasing step (Fig. 6, item Rc) for inducing a second erasing discharge between the row electrodes of said row electrode pair belonging to said discharge cells that have been set to said lighted discharge cell mode in said selective write addressing step (see col. 8, line 59-61, where the all-resetting step is equivalent to a second erasing step since it initializes the wall charges in all discharge cells thus erasing any changes from the previous field), said first erasing step and said second erasing step being performed immediately after said emission sustain step (Fig. 6, where it is inherent that the item Rc will be performed immediately after step E from a previous field).

Regarding claim 4, Saegusa teaches a method for driving a display panel in which discharge cells are formed at intersections between a plurality of row electrode pairs corresponding to display lines, and a plurality of column electrodes intersecting with said row electrode pairs (see col. 1, lines 22-24), said display panel being driven in sub-fields (Fig. 3), each field of a video signal being constituted by a plurality of said sub-fields (Fig. 5), wherein: a leading sub-field (Fig. 5, item SF1) of each field includes a selective write addressing step for setting said discharge cells to a unlighted discharge cell mode by applying a scan pulse (Fig. 5, item SP) to one row electrode of said row electrode pair while applying a data pulse (Fig. 5, item DP) corresponding to said video signal to said column electrode thereby selectively causing an erasing discharge in said discharge cells (see col. 6, lines 47-51, where the step for causing a writing discharge is the same as the step for causing an erasing discharge, therefore it is inherent that an erasing discharge is caused if the data pulse applied in that subfield is 0); and an emission sustain step for applying sustain pulses (Fig. 5, item IP) to said row electrode pairs thereby causing a sustain discharge repeated a number of times corresponding to a weighting of that sub-field only in said discharge cells that are in a lighted discharge cell mode (Fig. 6, col. 8, 38-54, where the weights given to the sustain discharge for each subfield are shown); the sub-fields following said leading sub-field (Fig. 5, items SF2=SF4) include a selective erasure addressing step for setting said discharge cells to an unlighted discharge cell mode by applying said scan pulse to one row electrode of said row electrode pair while applying the data pulse corresponding to said video signal

to said column electrode thereby selectively causing an erasing discharge in said discharge cells (Fig. 5, where SF2-SF4 contain the step of applying a scan pulse SP to one row electrode while applying a data pulse DP corresponding to said column electrode causing a discharge in said discharge cells, and this will be an "erasing" discharge when the data pulse is set to 0 during that subfield); and an emission sustain step for applying sustain pulses (Fig. 5, items IP within SF2-SF4) to said row electrode pairs thereby causing a sustain discharge repeated a number of times corresponding to a weighting of that sub-field only in said discharge cells that are in said lighted discharge cell mode(Fig. 6, col. 8, lines 38-54); the last sub-field of each field (Fig. 6, item SF 14) includes a first erasing step for inducing a first erasing discharge (Fig. 6, item E) between said column electrode and one of the row electrodes of said row electrode pair belonging to said discharge cells that have been set to said unlighted discharge cell mode in said selective erasure addressing step (see col. 8, lines 61-63, where this step erases the wall charges in all discharge cells); and a second erasing step (Fig. 6, item Rc) for inducing a second erasing discharge between the row electrodes of said row electrode pair belonging to said discharge cells that have been set to said lighted discharge cell mode in said selective write addressing step (see col. 8, lines 59-61, where the all-resetting step Rc is equivalent to a second erasing step since it initializes the wall charges in all discharge cells thus erasing any actions performed from the previous field), said first erasing step and said second erasing step being performed immediately after said emission sustain step (Fig. 6, where it is

inherent that the item Rc will be performed immediately after step E from a previous field).

Regarding claims 2 and 5, The method for driving a display panel further comprising a reset step for initializing all of said discharge cells to said unlighted discharge cell mode (Fig. 6, item Rc, see col. 8, lines 59-61) by causing a universal reset discharge in all discharge cells before said selective write addressing step in only said leading sub-field (see col. 8, lines 59-61).

Regarding claims 3 and 6, Saegusa teaches a method for driving a display panel wherein intermediate luminance of N+1 gradations (Fig. 6 and Fig. 21, where there are 14 gradations of luminance shown) is displayed by inducing sustain charges (Fig. 6, item Ic, see col. 8, line 30) in said emission sustain steps of N leading sub-fields of each field (In Fig. 6, here N = 13 and there are emission sustain steps shown for sub-fields 1-13).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kanazawa et al. (US 6,144,348) teaches a plasma display panel that uses the subfield method and describes how the resetting step is equivalent to an erasing step.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKG
January 9, 2006

Sameer Gokhale
Examiner
Art Unit 2673

JIMMY NGUYEN
PRIMARY EXAMINER